

## **Summary of Cancer Incidence and Mortality for Zip Code 29072 (Lexington, SC)**

### ***Cancer Incidence in Zip Code 29072***

The first step in the analysis of cancer data for zip code 29072 was to look at the number of new cancer cases diagnosed in the zip code and compare this to the number of cancer cases expected (see Table 1). This first step determines if there is anything unusual with cancer patterns in the area. The number of "expected" cancer cases is calculated by using South Carolina cancer rates and applying them to the population of the zip code.

Table 1 shows what types of cancer occurred in zip code 29072 from 1996-2000, and how many cancer cases were expected. Overall, there were fewer cases of cancer than expected. A total of 573 new cases of cancer occurred in the zip code, while 590 cases were expected. The most common types of cancer were female breast, lung colon/rectum, and prostate cancers. These types of cancer are also the most common cancers occurring across all of South Carolina.

The analysis did not reveal any specific types of cancer where the number of cases was significantly higher than expected.

### ***Cancer Deaths in Zip Code 29072***

To assess cancer deaths in this zip code, cancer mortality data from 1997-2001 were used. The same process used to analyze new cancer cases was also used to analyze cancer deaths. Table 2 shows the number of cancer deaths that occurred and the number expected in the zip code. A total of 303 cancer deaths occurred in this zip code, while 267 deaths were expected. Therefore, there were significantly more cancer deaths than expected.

The analysis revealed two specific types of cancer (**lung cancer and colon/rectum cancer**) where the number of cancer deaths was significantly higher than expected. Excesses in these two types of cancer contributed to the overall excess of cancer deaths in the zipcode.

By far, the most important risk factor for lung cancer is smoking. More than 80% of lung cancers are thought to result from smoking. However, there are other factors that can increase a person's risk of developing lung cancer. Exposure to second-hand smoke, asbestos, and radon increase risk. Also, exposure to cancer-causing agents in the workplace, such as uranium, arsenic, vinyl chloride, nickel chromates, coal products, fuels, and diesel exhaust can increase lung cancer risk. In addition, recurring inflammation, such as from tuberculosis or pneumonia, can leave scarring on the lungs, increasing the risk of developing lung cancer.

The risk of developing colon/rectum cancer increases greatly after age 50. About 90% of people found to have colorectal cancer are older than 50. Obesity, a diet high in animal fat, physical inactivity and smoking also increase risk. Also a family history of polyposis or a personal history of colon/rectum cancer, intestinal polyps, or chronic inflammatory bowel disease increase the risk of developing colon/rectum cancer.

### ***Conclusions***

To summarize, fewer cancer cases occurred in zip code 29072 than expected. There were no specific cancer sites that were significantly elevated in cases. Overall, more cancer deaths occurred than expected in this zipcode. There were also two types of cancer death that were significantly elevated, lung cancer deaths and colon/rectum cancer deaths. However, the risk factors associated with these types of cancer are primarily lifestyle related (i.e. smoking, high fat diets).

In order for a true cancer cluster to exist, the number of cancers occurring must be more than would be expected by chance. Along with statistical testing, there are several other criteria that determine whether a true cancer cluster exists. First, a cancer cluster would more likely involve rarer types of cancer rather than more common cancers like lung or colon/rectum cancers. Also, a cancer cluster would occur with one specific type of cancer rather than having excesses in several different types of cancer.

Taking all these criteria into consideration, there is no evidence of cancer clustering or of an excess of cancers resulting from environmental exposures in zip code 29072.

For questions about this report, please contact Laura Sanders at the SC Central Cancer Registry.

***Report provided by:***

SC Central Cancer Registry  
Department of Health and Environmental Control  
2600 Bull St.  
Columbia, SC 29201  
Phone: (800) 817-4774 or (803) 898-3696

Information on cancer incidence provided by the SC Central Cancer Registry, Office of Public Health Statistics and Information Services, SC Dept. of Health and Environmental Control.

Information on cancer mortality provided by the Division of Vital Records and the Division of Biostatistics, SC Dept. of Health and Environmental Control.

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**Table 1. Analysis of New Cancer Cases in Zip Code 29072, 1996-2000**

<b>Site</b>	<b>Observed No. of Cases</b>	<b>Expected No. of Cases</b>	<b>Observed/Expected</b>	<b>Chi-SquareTest*</b>
Breast (Female)	105	91.9	1.14	1.88
Lung/Bronchus	84	89.1	0.94	0.29
Colon/Rectum	66	66.4	0.99	0.00
Prostate	56	90.0	0.62	12.86
Melanoma	31	22.4	1.38	3.30
Bladder	24	22.0	1.09	0.18
Non-Hodgkin Lymphoma	20	19.5	1.03	0.01
Oral/Pharynx	20	17.8	1.12	0.26
Kidney/Renal Pelvis	15	15.2	0.99	0.00
Ovary	14	10.0	1.40	1.59
Pancreas	12	12.8	0.94	0.05
Brain/CNS	11	8.6	1.28	0.67
Leukemia	11	11.7	0.94	0.04
Uterus	11	14.1	0.78	0.70
Thyroid	8	7.3	1.10	0.07
Multiple Myeloma	7	6.4	1.09	0.05
Cervix	6	9.5	0.63	1.29
Stomach	6	9.1	0.66	1.07
Esophagus	5	8.1	0.62	1.17
Larynx	3	7.4	0.41	2.62
Unknown/III-Defined	20	NA	NA	NA
All Sites	573	589.6	0.97	0.47

Excludes in situ cases of cancer to allow for comparison.

Cancer sites with less than 5 cases of cancer expected are not analyzed due to the unreliability of statistical tests based on small numbers.

\*The Chi-square statistical test allows us to determine if the difference between what is observed and what is expected is significant. If the value is greater than 3.84, then we are 95% confident that the observed number of cases is significantly different from the expected number of cases.

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**Table 2. Analysis of Cancer Deaths in Zip Code 29072, 1997-2001**

<b>Site</b>	<b>Observed No. of Deaths</b>	<b>Expected No. of Deaths</b>	<b>Observed/Expected</b>	<b>Chi-SquareTest*</b>
<b>Lung/Bronchus</b>	<b>96</b>	<b>76.7</b>	<b>1.25</b>	<b>4.85</b>
<b>Colon/Rectum</b>	<b>40</b>	<b>26.4</b>	<b>1.52</b>	<b>7.02</b>
Pancreas	18	14.5	1.24	0.83
Breast (Female)	17	20.9	0.81	0.72
Non-Hodgkin Lymphoma	13	9.7	1.34	1.15
Prostate	13	15.3	0.85	0.35
Stomach	11	6.9	1.60	2.50
Brain/CNS	9	7.3	1.24	0.41
Ovary	9	6.1	1.48	1.38
Kidney/Renal Pelvis	8	5.5	1.46	1.17
Leukemia	7	9.4	0.74	0.61
Liver	7	5.1	1.37	0.70
Multiple Myeloma	7	5.9	1.18	0.19
Esophagus	4	6.7	0.60	1.06
Oral/Pharynx	4	5.4	0.74	0.37
Bladder	1	4.8	0.21	3.00
Unknown/III-Defined	21	NA	NA	NA
<b>All Sites</b>	<b>303</b>	<b>267.0</b>	<b>1.13</b>	<b>4.85</b>

Cancer sites with less than 5 cancer deaths expected are not analyzed due to the unreliability of statistical tests based on small numbers.

\*The Chi-square statistical test allows us to determine if the difference between what is observed and what is expected is significant. If the value is greater than 3.84, then we are 95% confident that the observed number of deaths is significantly different from the expected number of deaths.

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